

Application No.: 10/518,436
Amdt dated: September 14, 2007
Reply to Office action of June 18, 2007

REMARKS/ARGUMENTS

This Amendment is filed in response to the Office action that was mailed on June 18, 2007. Claims 1-9, 15-23 and 28-33 are pending in this Application. By this Amendment, Claims 1, 7, 15 and 21 are amended, Claims 2 and 16 are canceled, without prejudice, and Claims 34-57 are new. The amendments do not introduce new matter as they are fully supported by the Claims, Specification and Drawings as originally filed or are inherent characteristics thereof. Applicants respectfully request reconsideration and allowance of all Claims in view of the following remarks.

Claim 1 was amended to include the elements of Claim 2, and Claim 2 was canceled. Claim 15 was amended to include the elements of Claim 16, and Claim 16 was canceled, without prejudice. Claim 7 was amended to cooperate with amended Claim 1 and Claim 21 was amended to cooperate with amended Claim 15. New Claim 34 depends from Claim 1 and new Claim 35 depends from Claim 15. Each of new Claims 34 and 35 includes a smooth surface positioned opposite the teeth of the ratchet mechanism such that the pawl of the ratchet mechanism travels along the smooth surface during the return stroke. New Claims 34 and 35 do not introduce new matter as they are fully supported by the Claims, Specification and Drawings as originally filed or are inherent characteristics thereof. Also, new Claims 36-57 do not introduce new matter as they are fully supported by the Claims, Specification and Drawings as originally filed or are inherent characteristics thereof.

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On September 11, 2007, Applicants' attorney conducted a telephonic Examiner's Interview with Examiner Christina D. Gettman to discuss the Office action of June 18, 2007. More particularly, Applicants' attorney and the Examiner discussed the jaws and ratchet mechanism of the present invention in view of the art cited in the Office action.

Regarding the jaws, Applicants' attorney indicated that Claims 1 and 15 of the present Application include jaws that are capable of being opened and closed, whereas the jaws of Dicesare '693 do not open and close. The Examiner responded that as claimed, the opening and closing aspect of the jaws of Claims 1 and 15 is functional and that the issue is ripe for a 35 U.S.C. § 103 rejection.

Regarding the one-way ratchet mechanism of Claims 1 and 15 of the present Application, Applicants' attorney explained the differences between the ratchet mechanism claimed in the present application and the two-way ratchet mechanism depicted and described in Dicesare '693. More particularly, Applicants' attorney explained that the one-way ratchet of the present Application has a ratchet pawl that engages the ratchet teeth during a forward stroke of the ratchet, but the pawl does not engage the ratchet teeth during a return stroke, whereas the two-way ratchet of Dicesare '693 has a ratchet pawl that engages the ratchet teeth during both the forward stroke and the return stroke. The Examiner indicated that it might be advantageous to claim that the ratchet pawl engages the ratchet teeth during the forward stroke but does not engage the ratchet teeth during the return stroke. The Examiner also indicated that it might be helpful to claim a smooth surface opposite the ratchet teeth.

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Regarding the fixed teeth of the one-way ratchet mechanism of Claims 1 and 15 of the present Application, Applicants' attorney explained that the teeth described and claimed in the Application are fixed within the cartridge, whereas the ratchet teeth in Dicesare '693 move within the cartridge. The Examiner indicated that the Claims should include the teeth being fixed in relation to another item.

Regarding a second ratchet mechanism that is mirror-image to the first ratchet mechanism, Applicants' attorney explained that the device pointed to in Dicesare '693 in the rejection in the Office action is not a ratchet mechanism, but is a rack and pinion gear. The Examiner indicated that the rejection may need to be withdrawn.

Claims 1, 2, 4-9, 15, 16, 18-23 and 28-33 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,904,693 to Dicesare et al. (Dicesare '693). To be anticipating, a prior art reference must disclose each and every limitation of the claimed invention, the prior art must be enabling, and the prior art reference must describe the claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339 (Fed. Cir. 2000).

It is indicated in the Office action that Dicesare '693 discloses a laparoscopic clip applicator having a disposable cartridge including an elongate tube (col. 2, lines 45-57 and 55-56), a one-way ratchet mechanism (col. 2, lines 42-45; Dicesare '693 disclosing that the actuator is not released until a full cam-forward stroke is completed which is taken to mean that it moves completely in one direction before moving backward to its

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original position; the Examiner also noting that one-way ratchet mechanisms are well-known in the art), and a reusable actuating mechanism (col. 2, lines 8-9). It is further indicated in the Office action that the actuating mechanism comprises a sliding ratchet pawl for engaging with fixed mating teeth (ref. 138, FIG. 18; the mating teeth being fixed on one side to ref. 142; the claim not reciting what the fixed mating teeth are fixed in relation to) formed on an inner surface of the elongate tube (Figures 18 and 19), also having a central connection. Applicants respectfully traverse this rejection.

Amended Claims 1 and 15 are drawn to a clip applier having a disposable cartridge that includes a one-way ratchet mechanism having mating teeth fixed in relation to the elongate tube (Claim 1) or housing (Claim 15), and a pawl (Claim 1) or a drive bushing (Claim 15). Claims 1 and 15 also include the ratchet mechanism being adapted to begin at a starting point and providing a full actuating stroke of the clip applier, with the pawl/drive bushing engaging the teeth, before the engagement between the pawl/drive bushing and the teeth releases and the ratchet mechanism begins a return stroke with the pawl/drive bushing returning to the starting point without engaging the teeth. Applicants respectfully submit that Dicesare '693 does not teach these elements.

As stated above, it is indicated in the Office action that Dicesare '693 includes a one-way ratchet mechanism and refers to column 2, lines 42-45 of Dicesare '693 to support that statement. However, column 2, lines 42-45 of Dicesare '693 teaches a ratchet mechanism within the handle of the clip applier, as opposed to a one-way

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ratchet mechanism positioned in the disposable cartridge as is claimed in Applicants' Claims 1 and 15.

As also stated above, it is indicated in the Office action that the disposable cartridge of Dicesare '693 includes a sliding ratchet pawl for engaging with mating teeth formed on an inner surface of the elongate tube and refers to Figures 18 and 19 to support that statement. However, Figures 18 and 19 of Dicesare '693 teach a two-way ratchet mechanism (see Dicesare '693, Figures 18 and 19 and column 14, line 58 through column 15, line 26), as opposed to the one-way ratchet mechanism claimed in Applicants' Claims 1 and 15. More particularly, Dicesare '693 teaches a row of teeth 192 having a slot 194, 194' at either end of the row of teeth. When a pawl 196 positioned in one of the slots 194, 194' (starting point) is moved into engagement with the teeth 192, the pawl rotates slightly and is held in the rotated condition until the stroke is completed and the pawl comes to rest in the slot at the other end of the row of teeth. A leaf spring 107, in combination with a clearance distance for the pawl, prevents a pawl in the rotated condition and in engagement with the teeth from reversing directions until the stroke is completed and the pawl enters the slot at the other end of the row of teeth. When the pawl is in the rotated condition and in engagement with the teeth, the pawl can only travel in one direction, as dictated by the direction of rotation of the pawl. When the pawl does reach the slot at the other end of the row of teeth, the pawl rotates back to its original condition and may be moved back toward the starting point and into engagement with the teeth, rotating the pawl slightly in

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an opposite direction, and may not reverse direction until it enters the slot at the starting point. Hence, the ratchet mechanism of Dicesare '693 is a two-way ratchet mechanism having bi-directional locking means. Dicesare '693 does not teach the one-way ratchet mechanism within the disposable cartridge, as claimed in Claims 1 and 15, that is adapted to begin at a starting point and provide a full actuating stroke of the clip applier, with the pawl/drive bushing engaging the teeth, before the engagement between the pawl/drive bushing and the teeth releases and the ratchet mechanism begins a return stroke with the pawl/drive bushing returning to the starting point without engaging the teeth.

Amended Claims 1 and 15 also include the teeth being fixed in relation to the elongate tube (Claim 1) or housing member (Claim 15). Dicesare '693 teaches the teeth 192 being positioned on the push rod 136, which is moveable in relation to the shaft 12 (Dicesare '693, col. 14, line 58 to col. 15, line 26 and FIGS. 15-19).

Based on the foregoing, Applicants respectfully submit that Dicesare '693 fails to teach each and every limitation of Applicants' Claims 1 and 15 and that, therefore, Claims 1 and 15 are allowable over Dicesare '693. Applicants also respectfully submit that Claims 3-9 and 28-30 are allowable over Dicesare '693 as depending from allowable Claim 1 and Claims 17-23 and 31-33 are allowable over Dicesare '693 as depending from allowable Claim 15. Applicants further respectfully submit that new Claim 34 is allowable over Dicesare '693 as depending from allowable Claim 1 and new

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Claim 35 is allowable over Dicesare '693 as depending from allowable Claim 15.

Applicants respectfully request that this rejection be reconsidered and removed.

In relation to Claims 28-33, it is indicated in the Office action that the ratchet mechanism of Dicesare '693 includes a second ratchet mechanism that is a mirror image of the first ratchet mechanism and that is capable of equalizing the bearing forces on each side of the drive coupling (ref. 138 and ref. 142, FIG. 18; the two sides being duplications of one another and located on each side of the drive coupling; the claim not reciting that the two ratchet mechanisms need to be directly across from one another, just that they are mirror images of one another). Applicants respectfully traverse this rejection.

Applicants submit that FIG. 18 of Dicesare '693 does not depict a second ratchet mechanism that is a mirror image of the first ratchet mechanism, but instead depicts a rack and pinion gear mechanism including racks 138, 142 and pinion gear 140. Based on the foregoing, Applicants respectfully submit that Claims 28-33 are allowable over Dicesare '693. Additionally, Claims 28-30 are allowable as depending from allowable

Claim 1 and Claims 31-33 are allowable as depending from allowable Claim 15.

Applicants respectfully request that this rejection be reconsidered and removed.

Claims 3 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dicesare '693, as applied to Claims 1 and 15 above. It is indicated in the Office action that Dicesare '693 does not expressly disclose forming the ratchet mechanism from injection molded plastic, but that it is common to form surgical devices, including

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ratchet mechanisms, out of plastic because of its light weight. Applicants respectfully traverse this rejection.

Claim 3 depends from amended Claim 1, and Claim 17 depends from amended Claim 15. As stated above, Applicants respectfully submit that amended Claims 1 and 17 are allowable over Dicesare '693. Therefore, Applicants respectfully submit that each of Claims 3 and 17 is also allowable over Dicesare '693 as depending from an allowable claim and request that this rejection be reconsidered and removed.

Applicants respectfully request that a timely Notice of Allowance be issued in this case. If the Examiner believes that a telephone conference with Applicants' attorney might expedite prosecution of the Application, the Examiner is invited to call at the telephone number indicated below.

Sincerely

APPLIED MEDICAL RESOURCES

BY


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